

FOCUSED TRAFFIC IMPACT ANALYSIS

For:

"F" Street Subdivision

TM 5537

ER 07-09-006

Prepared by:

RCE Traffic and Transportation Engineering

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February 1, 2008

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1.0 INTRODUCTION

This Focused Traffic Impact Study was prepared by **RCE** to evaluate the potential traffic and circulation impacts related to the development of the "F" Street Subdivision. The proposed site is located on the northwest quadrant of the Third Street and F Street intersection in the unincorporated area of Ramona in the County of San Diego.

1.1 PROJECT DESCRIPTION

The project proposes to create a subdivision with ten single family residences. Currently the site contains one existing single family residence.

The Sandag land use of "Residential, Single Family Detached" was used to determine the potential traffic generation of the proposed development. The development of this project is estimated to generate a net total of 90 weekday trips with 7 and 9 vehicles per hour being generated during the morning and afternoon peak hour on the adjacent roadways, respectively.

Access to the site will be through a driveway on F Street approximately 165 feet west of the intersection of F Street and Third Street.

1.2 STUDY AREA

The limits of this study area were determined by County comments. The following intersections were requested to be included in this study area:

- SR-78 & Third Street
- Third Street & F Street

2.0 EXISTING TRAFFIC CONDITIONS

The following is an assessment of the existing conditions of the roadway network adjacent to the project relevant to this study.

2.1 EXISTING CIRCULATION NETWORK

Access to the study area is provided by the following facilities:

Third Street – is a circulation element roadway classified as a "Collector" in the County of San Diego's General Plan, and is included in the bicycle network system. Currently, the road is constructed with two 12 foot wide lanes and 1 foot shoulders adjacent to the project site. This project is proposing to widen this street along the project frontage to 25 foot wide pavement from the street centerline.

F Street – is a non-circulation element roadway and is currently constructed as a "Residential" street with 36 feet of pavement width adjacent to the project. This project is proposing to widen this street along the project frontage to 20 foot wide pavement from the street centerline.

SR-78 – is a State Facility and a circulation element roadway (Major Road) in the County's General Plan.

This section is currently constructed to "Collector" roadway standards.

2.2 EXISTING TRAFFIC VOLUMES

Existing peak hour turning volumes for the study area intersections and ADT for SR-78 and Third Street adjacent to the project site were obtained from traffic counts performed during the month of April, 2007 by Southland Car Counters.

Refer to figure 1 for existing traffic volumes. Count sheets are located in Appendix A

2.3 LEVEL OF SERVICE METHODOLOGY

The Level of Service (LOS) is a qualitative measure used to describe the operational conditions within a traffic stream, and a motorist and/or passenger's perception of the performance of the roadway. LOS is designated a letter from A to F, with LOS A representing the best operating conditions and LOS F the worst. LOS C is typically used as a design standard, while LOS D is considered acceptable for peak period operating conditions by most jurisdictions.

2.3.1 ROADWAY LEVEL OF SERVICE

Circulation element roadways within the study area were evaluated using the County of San Diego's daily level of service volume table. This methodology compares daily traffic volumes to roadway classifications to determine the approximate daily street segment level of service. This methodology is based on generalized assumptions regarding roadway design and traffic compositions and often does not accurately reflect peak hour operating characteristics. It is intended to be used as a guide to help determine roadway classifications and sizing.

2.3.2 INTERSECTION LEVEL OF SERVICE

Intersection levels of service were evaluated using the 2000 Highway Capacity Manual methods for signalized and unsignalized intersections. The University of Florida Transportation Research Center's Highway Capacity Software program was used in analyzing the intersections within the study area. The County of San Diego has set standards for adequate traffic flow through an existing intersection or roadway segment at LOS D or better. If the delay along an existing roadway or intersection declines to LOS E (unstable flow) or worse, it is considered an unacceptable condition by the County.

2.4 ANALYSIS OF EXISTING TRAFFIC CONDITIONS

2.4.1 ROADWAY SEGMENTS

Existing weekday traffic volumes (ADT) shown for SR-78 and for Third Street were compared to the County's capacity standards to determine the levels of service for the circulation element roadway segments. The County's capacity standards are based on average daily traffic on the facility. This analysis reveals that SR-78 and Third Street within the study area operate at LOS D or better based on the County's LOS tables.

2.4.2 INTERSECTIONS

NON-SIGNALIZED INTERSECTIONS:

This analysis shows that both of the non-signalized intersections in the study area currently operate at acceptable levels of service during the AM and PM peaks.

Refer to Table 2 below for a summary of this analysis. See Appendix B for LOS calculations.

3.0 EXISTING PLUS PROJECT TRAFFIC CONDITIONS

To properly evaluate the traffic impacts of this project on the existing roadways, the amount of traffic generated by the project must be estimated and distributed over the study area street system. Section 3.1 describes the methods and assumptions used to forecast project generated traffic volumes. Section 3.2 describes the analysis and results to determine the project impacts on the existing streets.

3.1 PROJECT-GENERATED TRAFFIC VOLUMES

3.1.1 PROJECT TRAFFIC GENERATION

This project proposes to construct ten single family residences and remove one existing residence. The Sandag land use of "Residential, Single Family Detached" was used to determine the potential traffic generation of the proposed development.

Per Sandag:	ADT = 10 trips/SFDU.	X	9 (net).=	90 ADT
	AM peak = 8% (3:7)		=	7 (2:5)
	PM peak = 10% (7:3)		=	9 (6:3)

The development of this project is estimated to generate a total of 90 new weekday trips with 7 and 9 vehicles per hour being generated during the morning and afternoon peak hour on the adjacent roadways, respectively.

3.1.2 PROJECT TRAFFIC DISTRIBUTION

To properly evaluate impacts of the project to the surrounding street system, it is necessary to distribute project generated traffic in a manner consistent with the surrounding land uses and anticipated origins and destinations.

Figure 2 shows the distribution of project generated traffic onto the surrounding roadway system. Figure 3 shows existing plus project traffic volumes.

3.2 EXISTING PLUS PROJECT IMPACTS

3.2.1 ROADWAY SEGMENTS

The LOS of 3rd Street and of SR-78 within the study area based on existing plus project traffic volumes are shown in table 1 below. Analysis of these volumes reveal that both roadway segments within the project study area will operate at LOS D or better based on the County's capacity standards.

3.2.2 INTERSECTIONS

NON-SIGNALIZED INTERSECTIONS:

Table 2 below summarizes the results of this analysis. This shows that both non-signalized intersections in the study area continue to operate at acceptable levels of service during the AM and PM peak periods.

See Appendix B for LOS calculations.

4.0 EXISTING PLUS CUMULATIVE CONDITIONS

This section analyzes the study area roadway network assuming the construction of all development projects currently active within and adjacent to the Ramona Community Planning Area which have impacts on traffic. These projects were obtained from the County "Cumulative Projects" folder. See figure 4 for traffic volumes generated by these projects, and figure 5 for existing + project + cumulative traffic volumes.

4.1 EXISTING PLUS PROJECT PLUS CUMULATIVE PROJECTS IMPACTS

4.1.1 ROADWAY SEGMENTS

This analysis reveals that both study area roadway segments continue to operate at acceptable levels based on County LOS tables with the addition of cumulative traffic volumes to the existing + project volumes. This assumes a "Collector" classification for SR-78.

4.1.2 INTERSECTIONS

NON-SIGNALIZED INTERSECTIONS:

This analysis shows that both non-signalized intersections in the study area continue to operate at acceptable levels of service within the study area with the exception of northbound left turns at the SR-78 & 3rd Street intersection. This move degrades to LOS F during the AM and PM peak hours with cumulative project traffic volumes added.

Refer to Table 2 below for a summary of this analysis.

5.0 PROJECT IMPACTS

The County of San Diego's "Guidelines for Determining Significance" utilizes the following tables to determine if a project's impacts constitute significant direct or cumulative impacts:

Measures of Significant Project Impacts to Congestion
Allowable Increases on Congested Roads and Intersections

Road Segments			
	2-Lane Road	4-Lane Road	6-Lane Road
LOS E	200 ADT	400 ADT	600 ADT
LOS F	100 ADT	200 ADT	300 ADT
Intersections			

	Signalized	Unsignalized
LOS E	Delay of 2 seconds	20 peak hour trips on a critical movement
LOS F	Delay of 1 second, or 5 peak hour trips on a critical movement	5 peak hour trips on a critical movement

Roadway Segments:

Based on the guidelines set forth in the County of San Diego's "Guidelines for Determining Significance", direct or cumulative impacts would occur when the significance criteria outlined above are exceeded. In this case, this project will have no direct impacts to the study area roadway segments.

See table 1 below for a summary of this analysis.

Intersections:

Based on the guidelines set forth in the County of San Diego's "Guidelines for Determining Significance", direct or cumulative impacts would occur when the significance criteria outlined are exceeded. In this case, this project will have no direct impacts to intersections in the study area. See table 3 below for a summary of the project's direct impacts to study area intersections.

TABLE 1: Street Segment LOS

Segment	Road Classification	Road Capacity (LOS E)	Exist. Volume	Exist. LOS	Project Traffic	Existing + Project LOS	Direct Impact	Cuml Traffic	Exist + Cuml LOS	Cuml Impact
Third Street SR-78	Two-Lane Collector	16,200	4,207	C	40	C	No	243	C	No
	Collector	34,200	9,367	A	14	A	No	4,600	B	No

TABLE 2: Non-signalized Intersection LOS

Intersection	Approach	Existing				Existing + Project				Existing + Cumulative			
		AM		PM		AM		PM		AM		PM	
		L O S	Delay	L O S	Delay	L O S	Delay	L O S	Delay	L O S	Delay	L O S	Delay
SR-78 & 3 rd Street	E/B (lt) *	A	8.0	A	7.7	A	8.0	A	7.7	A	8.7	A	8.8
	W/B (lt) *	A	7.7	A	8.1	A	7.7	A	8.1	A	8.2	A	9.4
	N/B (lt) *	B	13.5	B	13.1	B	13.6	B	13.1	D	34.6	D	29.3
	Approach	B	12.7	B	12.3	B	12.7	B	12.4	D	30.8	C	24.6
3 rd Street & F Street													
	N/B(lt) *	A	8.6	B	10.0	A	9.5	B	10.4	A	9.8	B	10.9

* Critical Movement

TABLE 3: Intersection Impact Summary

Intersection	Existing + Project						Existing + Cumulative					
	AM			PM			AM			PM		
Non-signalized		Trip Increase			Trip Increase			Trip Increase			Trip Increase	
SR-78 & 3 rd Street	C	2	No	C	1	No	D	104	No	D	25	No
3 rd Street & F Street	B	2	No	B	2	No	B	0	No	B	0	No

Notes: "Trip increase" shown is the increase in peak hour trips on a critical movement.

6.0 PROPOSED MITIGATION MEASURES

DIRECT IMPACTS:

As outlined in the above tables, the addition of project generated trips to the surrounding roadways will have no direct impacts to existing roadway segments and intersections. Therefore, no mitigation measures are required with this project for direct impacts.

CUMULATIVE IMPACTS:

As outlined in Table 3, with the addition of project and cumulative projects traffic to the study area roadway network, no cumulative impacts to the study area roadway segments and intersections are anticipated.

The County of San Diego has adopted a Transportation Impact Fee (TIF) for projects throughout the County of San Diego area to improve certain circulation element roadways. Payment of this TIF is intended to mitigate potential cumulative impacts caused by new developments.

The developer of this project has agreed to pay the appropriate TIF fees which will provide appropriate mitigations for potential cumulative impacts outside the project study area.

7.0 ADDITIONAL ITEMS ANALYZED

7.1 Driveway Location

The access for this project is proposed on F Street approximately 165 feet west of the intersection of F Street & 3rd Street. F Street is a non-circulation element roadway and, per County Design Standards (Section 6) "Non-Circulation Element roads entering into other Non-Circulation Element roads shall have their centerlines separated by at least 200 feet." The northbound left turn move at the intersection of F & 3rd Streets is calculated to operate at LOS B under all conditions analyzed in this study with maximum delays of less than 11 seconds. Due to the low traffic volumes on F Street and the calculated low delays at the 3rd Street intersection, the proposed 165 foot separation of these streets is adequate to avoid potential traffic queues of vehicles from 3rd Street impacting access to the project.

7.2 Corner Sight Distance

Field reviews revealed no obstructions to corner sight distance from the location of the proposed project access driveway to F Street. The developer of this project should assure a minimum of 250 feet corner sight distance from the project driveway once construction is complete.

7.3 Preliminary Striping for Third Street

The project proposes to widen Third Street along the project frontage to 25' of pavement from the centerline of the roadway. This widening will require new traffic striping to accommodate the additional pavement width. Please refer to Appendix C for the Preliminary Striping Plan for Third Street.

8.0 CONCLUSIONS

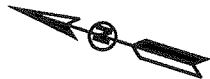
It is recommended that the following traffic related improvements be made conditions of approval for development of this project:

1. Pay appropriate Transportation Impact Fee (TIF) to mitigate potential cumulative impacts prior to issuance of building permits.
2. Provide 250 feet of corner sight distance from the proposed new driveway per County of San Diego Design Standards DS-20A and 20B.

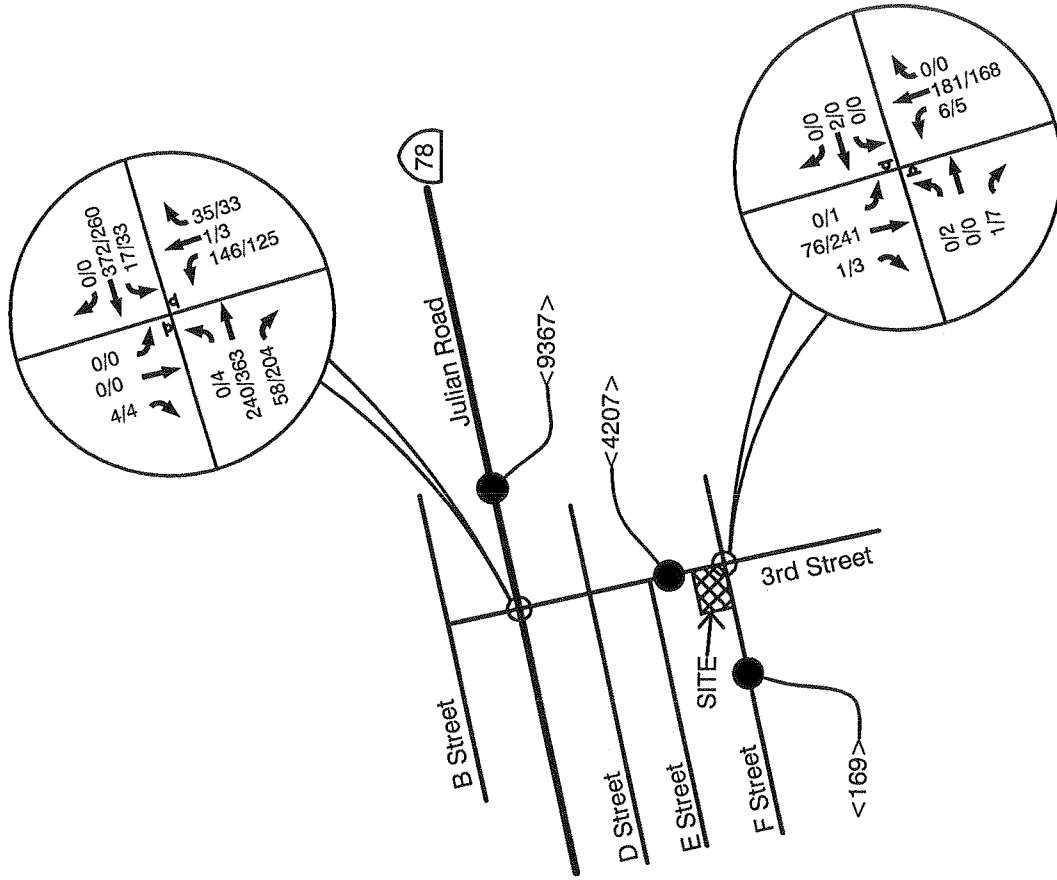
Please feel free to call me if you have questions on any of the above.

Sincerely,


Rick Crafts CE, TE



NO SCALE



LEGEND

XX/XX = AM/PM PEAK HOUR VOLUMES

<XXX> = ADT VOLUMES

▲ = STOP SIGN

◼ = TRAFFIC SIGNAL

FIGURE 1

EXISTING VOLUMES

RCE TRAFFIC AND TRANSPORTATION ENGINEERING

2235 MILLON DRIVE, LA MESA, CA 91941
Tel. 659-9151 Fax 659-9209

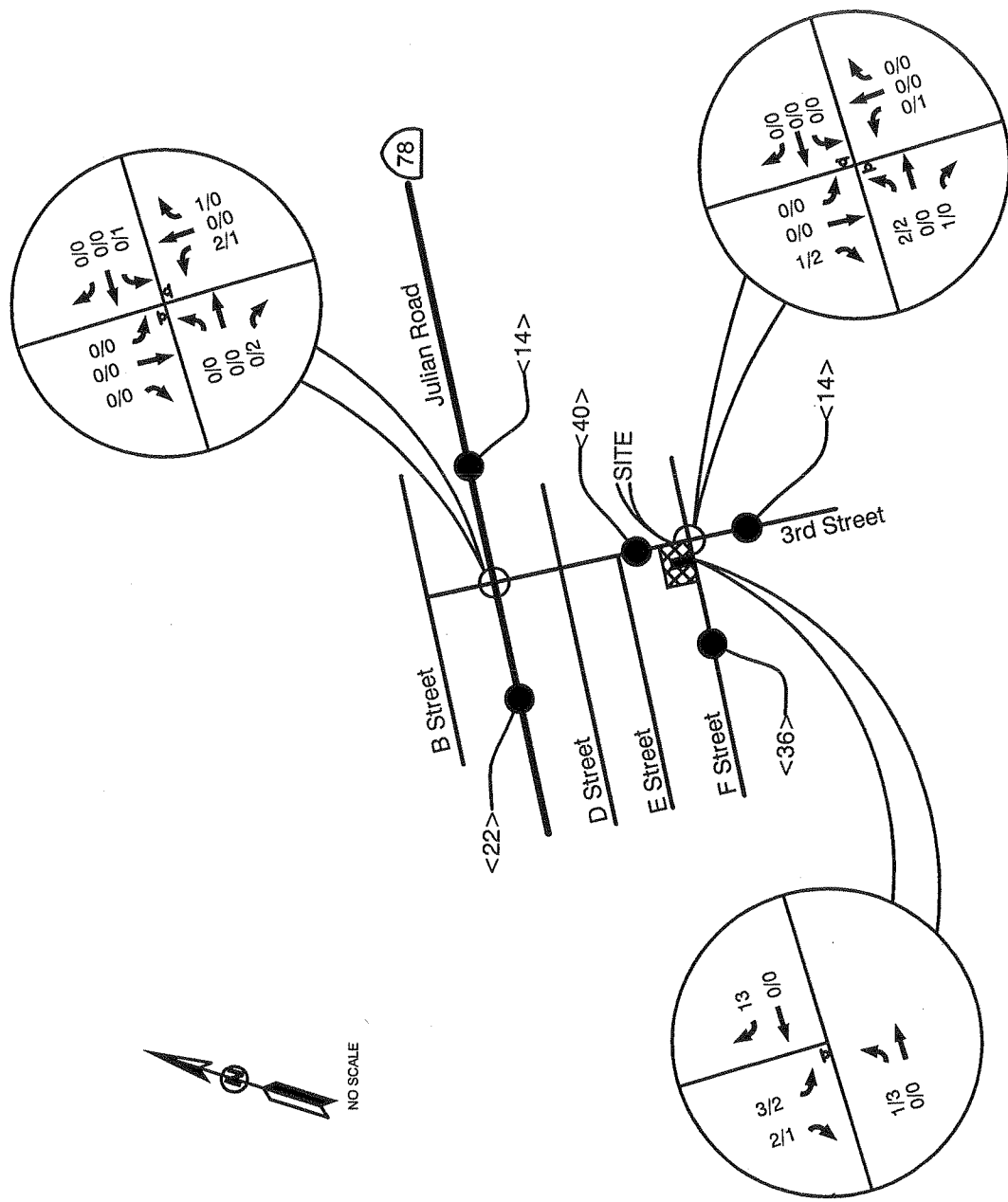


FIGURE 2
PROJECT TRIP
DISTRIBUTION

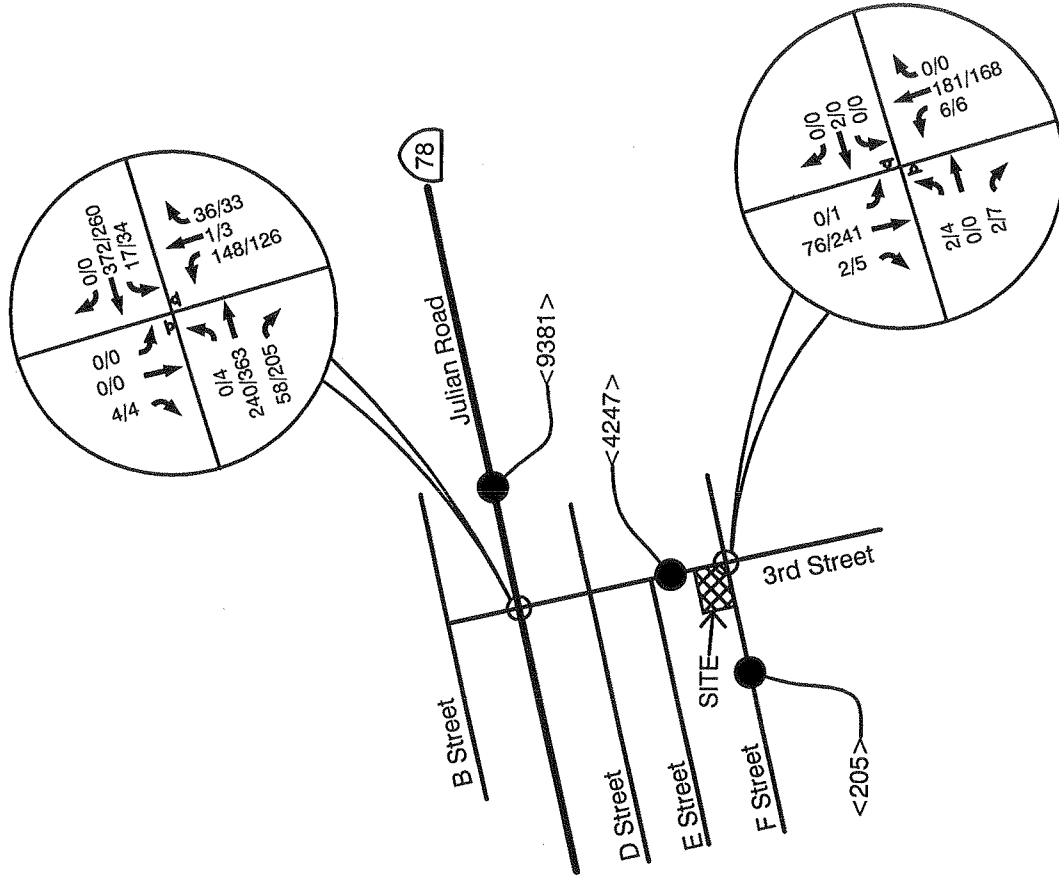
LEGEND

XXXX = AM/PM PEAK HOUR VOLUMES
 <XXX> = ADT VOLUMES
 ▲ = STOP SIGN
 [Signal Symbol] = TRAFFIC SIGNAL

RCE TRAFFIC AND TRANSPORTATION ENGINEERING
 5235 DILLON DRIVE, LA MESA, CA 91941
 Tel. 659-8151 Fax 659-8209



NO SCALE



LEGEND

- XX/XX = AM/PM PEAK HOUR VOLUMES
- <XXX> = ADT VOLUMES
- ▲ = STOP SIGN
- ◼ = TRAFFIC SIGNAL

FIGURE 3
EXISTING + PROJECT
VOLUMES

RCE TRAFFIC AND TRANSPORTATION ENGINEERING
 5225 DILLON DRIVE, LA MESA, CA, 91941
 Tel. 650-9151 Fax 650-2209

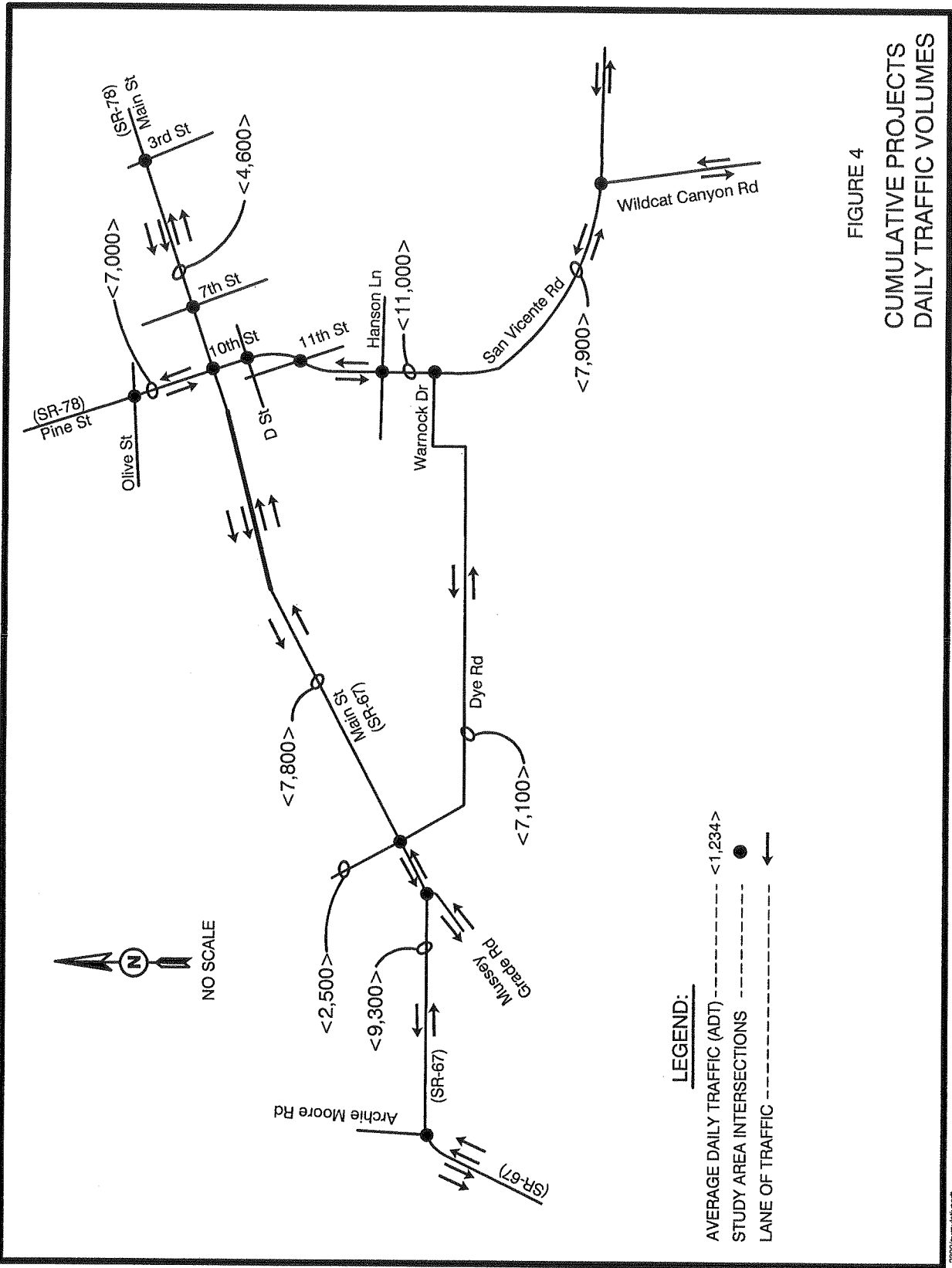


FIGURE 4
CUMULATIVE PROJECTS
DAILY TRAFFIC VOLUMES

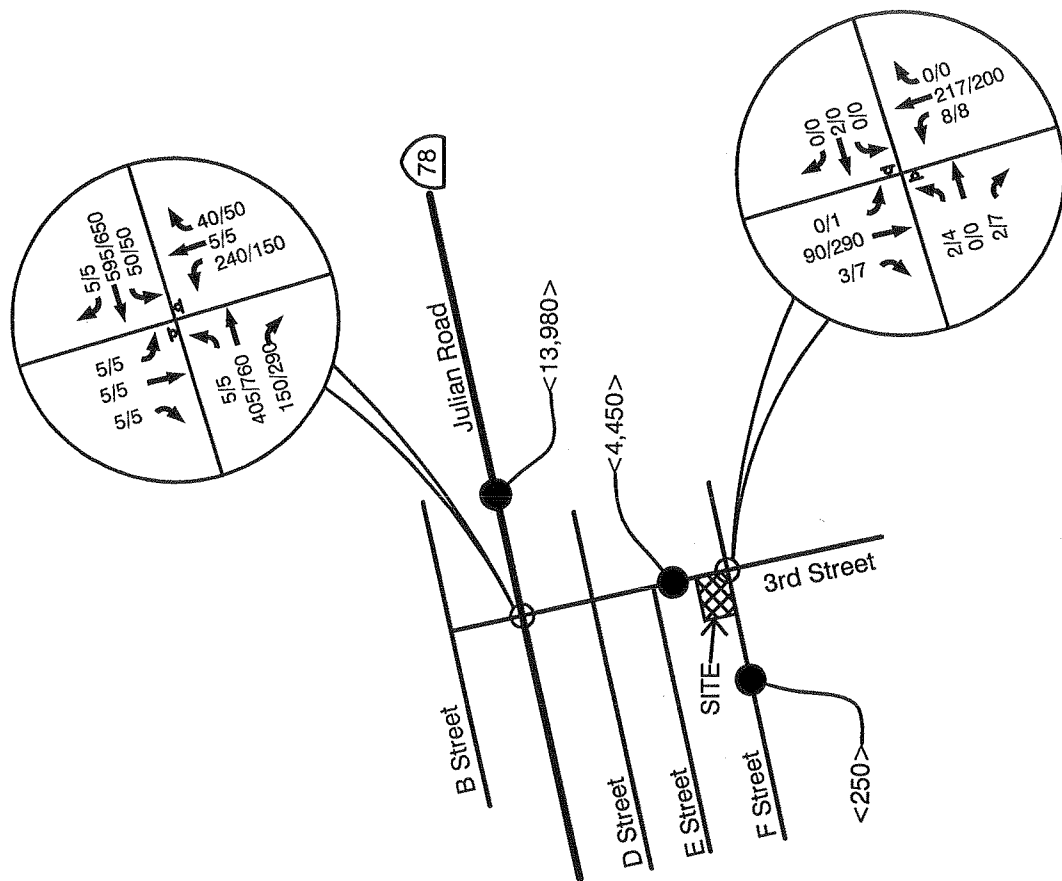


FIGURE 5

EXISTING + PROJECT + CUMULATIVE VOLUMES

LEGEND

XX/XX = AM/PM PEAK HOUR VOLUMES

<XXX> = ADT VOLUMES

▲ = STOP SIGN

■ = TRAFFIC SIGNAL



NO SCALE

RCE TRAFFIC AND TRANSPORTATION ENGINEERING
3255 DALLON DRIVE, LA MESA, CA 91941
Tel. 659-9151 Fax 659-9209

FOCUSED TRAFFIC IMPACT ANALYSIS

APPENDIX

FOR:

"F" STREET SUBDIVISION

- APPENDIX A - Traffic Counts
- APPENDIX B - Intersection LOS Analysis
- APPENDIX C - Preliminary Striping Plan for Third Street

APPENDIX A

Traffic Counts

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: 3rd St.

DATE: 4/24/2007

LOCATION: City of Ramona

E-W STREET: Julian Rd.

DAY: TUESDAY

PROJECT# 07-4075-001

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 2	ER 1	WL 1	WT 1	WR 0	TOTAL
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	50	1	12		0	1	0	47	17	4	106	0	238
7:15 AM	59	0	14		0	1	0	59	15	8	82	0	238
7:30 AM	21	0	3		0	1	0	61	14	3	83	0	186
7:45 AM	16	0	6		0	1	0	73	12	2	101	0	211
8:00 AM	20	0	7		0	2	1	84	11	2	69	0	196
8:15 AM	21	0	1		0	2	0	54	14	4	78	0	174
8:30 AM	17	0	2		0	1	0	70	17	2	84	1	194
8:45 AM	22	0	1		2	0	0	66	15	9	69	0	184
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
VOLUMES =	226	1	46	0	2	9	1	514	115	34	672	1	1621

AM Peak Hr Begins at: 700 AM

PEAK													
VOLUMES =	146	1	35	0	0	4	0	240	58	17	372	0	873
PEAK HR.													
FACTOR:		0.623			1.000			0.876			0.884		0.917

CONTROL: 2-WAY STOP (NS)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: 3rd St.

DATE: 4/24/2007

LOCATION: City of Ramona

E-W STREET: Julian Rd.

DAY: TUESDAY

PROJECT# 07-4075-001

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 2	ER 1	WL 1	WT 1	WR 0	TOTAL
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	24	0	7		0	0	0	94	44	9	56		234
4:15 PM	24	0	15		1	0	0	121	28	6	76		271
4:30 PM	26	0	6		0	1	1	76	45	14	60		229
4:45 PM	40	0	10		0	1	0	106	47	4	67		275
5:00 PM	22	2	7		0	0	2	89	55	9	59		245
5:15 PM	37	1	10		0	2	1	92	57	6	74		280
5:30 PM	17	0	16		0	0	2	77	46	10	49		217
5:45 PM	26	0	10		0	1	1	79	66	7	38		228
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
VOLUMES =	216	3	81	0	1	5	7	734	388	65	479	0	1979

PM Peak Hr Begins at: 430 PM

PEAK	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
VOLUMES =	125	3	33	0	0	4	4	363	204	33	260	0	1029
PEAK HR.													
FACTOR:	0.805			0.500			0.933			0.916			0.919

CONTROL: 2-WAY STOP (NS)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: 3rd St

DATE: 4/24/2007

LOCATION: City of Ramona

E-W STREET: F St

DAY: TUESDAY

PROJECT# 07-4075-002

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	2	62			17	0			0		0		81
7:15 AM	0	64			29	0			1		1		95
7:30 AM	2	26			18	1			0		0		47
7:45 AM	2	29			12	0			0		1		44
8:00 AM	0	29			15	1			1		0		46
8:15 AM	1	21			20	0			0		0		42
8:30 AM	0	29			16	0			0		0		45
8:45 AM	1	27			27	0			0		0		55
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													

TOTAL VOLUMES =	NL 8	NT 287	NR 0	SL 0	ST 154	SR 2	EL 0	ET 0	ER 2	WL 0	WT 2	WR 0	TOTAL 455
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AM Peak Hr Begins at: 700 AM

PEAK VOLUMES =	6	181	0	0	76	1	0	0	1	0	2	0	267
PEAK HR. FACTOR:	0.730			0.664			0.250			0.500			0.703

CONTROL: 2-WAY STOP (EW)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: 3rd St

DATE: 4/24/2007

LOCATION: City of Ramona

E-W STREET: F St

DAY: TUESDAY

PROJECT# 07-4075-002

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	1	33		0	50	2	1		0				87
4:15 PM	0	44		0	47	0	0		0				91
4:30 PM	2	46		0	65	1	0		2				116
4:45 PM	1	44		0	52	0	2		0				99
5:00 PM	2	37		1	56	1	0		2				99
5:15 PM	0	41		0	68	1	0		3				113
5:30 PM	0	32		0	60	1	0		1				94
5:45 PM	0	36		2	74	1	0		0				113
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
VOLUMES =	6	313	0	3	472	7	3	0	8	0	0	0	812

PM Peak Hr Begins at: 430 PM

PEAK	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
VOLUMES =	5	168	0	1	241	3	2	0	7	0	0	0	427
PEAK HR.	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
FACTOR:		0.901			0.888			0.750			0.000		0.920

CONTROL: 2-WAY STOP (EW)

Volumes for: Tuesday, April 24, 2007

City: Ramona

Project #: 07-4074-001

Location: Julian Rd. N/o 3rd

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB				
00:00			6	4	12:00			62	73				
00:15			8	3	12:15			72	69				
00:30			4	2	12:30			78	69				
00:45			2	20	2	11	31	12:45	67	279	64	275	554
01:00			4	1	13:00			63	73				
01:15			4	6	13:15			57	83				
01:30			2	3	13:30			67	69				
01:45			0	10	2	12	22	13:45	63	250	80	305	555
02:00			1	3	14:00			59	80				
02:15			2	2	14:15			84	72				
02:30			5	1	14:30			84	69				
02:45			10	18	2	8	26	14:45	86	313	68	289	602
03:00			1	7	15:00			81	80				
03:15			6	7	15:15			72	72				
03:30			4	7	15:30			80	119				
03:45			2	13	10	31	44	15:45	97	330	92	363	693
04:00			1	7	16:00			112	65				
04:15			5	14	16:15			106	76				
04:30			5	12	16:30			106	90				
04:45			10	21	27	60	81	16:45	111	435	69	300	735
05:00			13	36	17:00			88	62				
05:15			27	58	17:15			103	75				
05:30			33	49	17:30			94	61				
05:45			29	102	62	205	307	17:45	92	377	49	247	624
06:00			34	71	18:00			73	56				
06:15			52	73	18:15			83	63				
06:30			42	84	18:30			73	58				
06:45			48	176	102	330	506	18:45	104	333	53	230	563
07:00			52	94	19:00			73	33				
07:15			73	95	19:15			66	37				
07:30			62	97	19:30			78	34				
07:45			86	273	94	380	653	19:45	54	271	18	122	393
08:00			95	70	20:00			75	18				
08:15			62	91	20:15			68	17				
08:30			66	86	20:30			50	21				
08:45			68	291	83	330	621	20:45	70	263	13	69	332
09:00			52	88	21:00			52	20				
09:15			53	67	21:15			34	16				
09:30			57	74	21:30			38	12				
09:45			50	212	87	316	528	21:45	32	156	6	54	210
10:00			59	67	22:00			32	13				
10:15			58	79	22:15			26	14				
10:30			60	72	22:30			16	7				
10:45			54	231	83	301	532	22:45	24	98	10	44	142
11:00			65	87	23:00			29	10				
11:15			45	67	23:15			14	10				
11:30			63	79	23:30			8	4				
11:45			49	222	71	304	526	23:45	8	59	4	28	87
Total Vol.			1589	2288	3877			3164	2326	5490			

		Daily Totals		
NB	SB	EB	WB	Combined
		4753	4614	9367

AM			
Split %	41.0%	59.0%	41.4%
Peak Hour	07:15	06:45	07:15
Volume	316	388	672
P.H.F.	0.83	0.95	0.93

PM		
57.6%	42.4%	58.6%
16:00	15:00	15:30
435	363	747
0.97	0.76	0.94

Volumes for: Tuesday, April 24, 2007

City: Ramona

Project #: 07-4074-003

Location: F St S/o 3rd

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00			0	0	12:00			1	1
00:15			0	0	12:15			4	0
00:30			0	0	12:30			1	1
00:45			0	0	12:45			0	6
01:00			2	0	13:00			6	5
01:15			0	0	13:15			1	1
01:30			0	0	13:30			2	1
01:45			0	2	13:45			2	11
02:00			0	0	14:00			1	5
02:15			0	0	14:15			2	2
02:30			0	0	14:30			1	3
02:45			0	0	14:45			0	4
03:00			0	0	15:00			0	0
03:15			1	0	15:15			1	2
03:30			0	0	15:30			2	0
03:45			0	1	15:45			1	4
04:00			0	0	16:00			3	1
04:15			0	0	16:15			0	0
04:30			0	0	16:30			1	2
04:45			0	0	16:45			2	6
05:00			1	0	17:00			2	1
05:15			1	1	17:15			1	3
05:30			0	0	17:30			1	2
05:45			0	2	17:45			1	5
06:00			0	0	18:00			0	3
06:15			0	0	18:15			2	0
06:30			3	0	18:30			1	2
06:45			1	4	18:45			0	3
07:00			1	1	19:00			7	7
07:15			0	2	19:15			2	0
07:30			0	4	19:30			1	1
07:45			0	1	19:45			1	11
08:00			1	2	20:00			1	2
08:15			0	1	20:15			2	2
08:30			0	0	20:30			0	1
08:45			0	1	20:45			0	3
09:00			1	0	21:00			1	1
09:15			0	0	21:15			0	0
09:30			1	0	21:30			1	0
09:45			1	3	21:45			0	2
10:00			0	1	22:00			1	0
10:15			0	1	22:15			0	1
10:30			1	1	22:30			0	0
10:45			1	2	22:45			0	1
11:00			0	0	23:00			0	0
11:15			0	0	23:15			0	4
11:30			4	6	23:30			0	0
11:45			3	7	23:45			0	0
Total Vol.			23	27	50			56	63

119

		Daily Totals		
NB	SB	EB	WB	Combined
		79	90	169

AM			
Split %	46.0%	54.0%	29.6%
Peak Hour	11:30	11:15	11:30
Volume	12	10	22
P.H.F.	0.75	0.42	0.55

PM		
47.1%	52.9%	70.4%
12:15	13:45	13:00
11	13	21
0.46	0.65	0.48

Volumes for: Tuesday, April 24, 2007

City: Ramona

Project #: 07-4074-002

Location: 3rd N/o F St

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00	4	5			12:00	17	32		
00:15	3	4			12:15	25	26		
00:30	2	3			12:30	24	26		
00:45	1	10	3	15	12:45	32	98	27	111
01:00	1	1			13:00	23	26		
01:15	0	1			13:15	15	21		
01:30	1	0			13:30	26	21		
01:45	0	2	4	6	13:45	21	85	17	85
02:00	1	0			14:00	34	26		
02:15	0	3			14:15	22	32		
02:30	1	0			14:30	19	26		
02:45	3	5	4	7	14:45	18	93	21	105
03:00	0	1			15:00	25	39		
03:15	3	1			15:15	26	50		
03:30	1	3			15:30	23	39		
03:45	3	7	0	5	15:45	27	101	36	164
04:00	4	4			16:00	34	53		
04:15	5	0			16:15	43	46		
04:30	8	1			16:30	45	72		
04:45	14	31	4	9	16:45	43	165	55	226
05:00	30	2			17:00	39	62		
05:15	34	6			17:15	41	64		
05:30	27	4			17:30	33	61		
05:45	35	126	15	27	17:45	37	150	72	259
06:00	46	14			18:00	40	66		
06:15	52	12			18:15	31	54		
06:30	50	22			18:30	46	64		
06:45	55	203	18	66	18:45	38	155	73	257
07:00	61	20			19:00	26	59		
07:15	65	22			19:15	21	44		
07:30	26	19			19:30	27	44		
07:45	29	181	13	74	19:45	22	96	31	178
08:00	30	14			20:00	17	36		
08:15	18	23			20:15	19	49		
08:30	30	20			20:30	13	32		
08:45	30	108	26	83	20:45	4	53	33	150
09:00	25	20			21:00	11	29		
09:15	24	20			21:15	15	22		
09:30	24	25			21:30	12	22		
09:45	21	94	17	82	21:45	9	47	16	89
10:00	16	16			22:00	10	11		
10:15	13	15			22:15	7	10		
10:30	20	17			22:30	4	16		
10:45	20	69	18	66	22:45	5	26	13	50
11:00	23	23			23:00	4	5		
11:15	8	27			23:15	4	4		
11:30	26	18			23:30	2	1		
11:45	15	72	22	90	23:45	1	11	5	15
Total Vol.	908	530							

1438

1080

1689

2769

Daily Totals

NB	SB	EB	WB	Combined
1988	2219			4207

AM

PM

Split %	63.1%	36.9%	34.2%	39.0%	61.0%	65.8%
Peak Hour	06:30	11:45	06:30	16:15	17:15	16:30
Volume	231	106	313	170	263	421
P.H.F.	0.89	0.83	0.90	0.97	0.91	0.90

APPENDIX B

Intersection LOS Analysis

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: Rick Crafts
 Agency/Co.: RCE
 Date Performed: 5/4/07
 Analysis Time Period: AM Peak - existing
 Intersection: 78/3rd
 Jurisdiction: County of San Diego
 Units: U. S. Customary
 Analysis Year: 2007
 Project ID: 36900
 East/West Street: SR-78
 North/South Street: 3 rd
 Intersection Orientation: EW

Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Eastbound			Westbound		
		1	2	3	4	5	6
		L	T	R	L	T	R
Volume		0	240	58	17	372	0
Peak-Hour Factor, PHF		1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR		0	240	58	17	372	0
Percent Heavy Vehicles		0	--	--	0	--	--
Median Type/Storage		TWLTL			/ 5		
RT Channelized?		Yes					
Lanes		0	2	1	1	1	0
Configuration		LT	T	R	L	TR	
Upstream Signal?		No			No		

Minor Street: Approach Movement	Northbound				Southbound		
	7	8	9	10	11	12	
	L	T	R	L	T	R	
Volume	146	1	35	0	0	4	
Peak Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR	146	1	35	0	0	4	
Percent Heavy Vehicles	0	0	0	0	0	0	
Percent Grade (%)		0			0		
Flared Approach: Exists?/Storage	No			/			No /
Lanes	1	1	0		0	1	0
Configuration	L		TR			LTR	

Delay, Queue Length, and Level of Service

Approach Movement Lane Config	EB	WB	Northbound				Southbound	
	1	4	7	8	9	10	11	12
	LT	L	L		TR		LTR	
v (vph)	0	17	146		36		4	
C(m) (vph)	1198	1339	568		900		631	
v/c	0.00	0.01	0.26		0.04		0.01	
95% queue length	0.00	0.04	1.03		0.12		0.02	
Control Delay	8.0	7.7	13.5		9.2		10.7	
LOS	A	A	B		A		B	
Approach Delay				12.7			10.7	
Approach LOS				B			B	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: Rick Crafts
 Agency/Co.: RCE
 Date Performed: 5/4/07
 Analysis Time Period: PM Peak - existing
 Intersection: 78/3rd
 Jurisdiction: County of San Diego
 Units: U. S. Customary
 Analysis Year: 2007
 Project ID: 36900
 East/West Street: SR-78
 North/South Street: 3 rd
 Intersection Orientation: EW

Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach Movement	Eastbound				Westbound		
	1	2	3	4	5	6	
	L	T	R	L	T	R	
Volume	4	363	204	33	260	0	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR	4	363	204	33	260	0	
Percent Heavy Vehicles	0	--	--	0	--	--	
Median Type/Storage	TWLTL			/ 5			
RT Channelized?	Yes						
Lanes	0	2	1		1	1	0
Configuration	LT T R				L		TR
Upstream Signal?	No				No		

Minor Street: Approach Movement	Northbound				Southbound		
	7 L	8 T	9 R	10 L	11 T	12 R	
Volume	125	3	33	0	0	4	
Peak Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR	125	3	33	0	0	4	
Percent Heavy Vehicles	0	0	0	0	0	0	
Percent Grade (%)	0				0		
Flared Approach: Exists?/Storage	No			/			No /
Lanes	1	1	0		0	1	0
Configuration	L TR				LTR		

Delay, Queue Length, and Level of Service

Approach Movement Lane Config	EB	WB	Northbound			Southbound		
	1	4	7	8	9	10	11	12
	LT	L	L		TR		LTR	
v (vph)	4	33	125		36		4	
C(m) (vph)	1316	1207	569		805		745	
v/c	0.00	0.03	0.22		0.04		0.01	
95% queue length	0.01	0.08	0.84		0.14		0.02	
Control Delay	7.7	8.1	13.1		9.7		9.9	
LOS	A	A	B		A		A	
Approach Delay				12.3			9.9	
Approach LOS				B			A	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: Rick Crafts
 Agency/Co.: RCE
 Date Performed: 5/4/07
 Analysis Time Period: AM Peak - existing + project
 Intersection: 78/3rd
 Jurisdiction: County of San Diego
 Units: U. S. Customary
 Analysis Year: 2007
 Project ID: 36900
 East/West Street: SR-78
 North/South Street: 3 rd
 Intersection Orientation: EW

Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Eastbound			Westbound		
		1	2	3	4	5	6
		L	T	R	L	T	R
Volume		0	240	58	17	372	0
Peak-Hour Factor, PHF		1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR		0	240	58	17	372	0
Percent Heavy Vehicles		0	--	--	0	--	--
Median Type/Storage		TWLTL			/ 5		
RT Channelized?		Yes					
Lanes		0	2	1	1	1	0
Configuration		LT	T	R	L	TR	
Upstream Signal?		No			No		

Minor Street:	Approach Movement	Northbound				Southbound		
		7	8	9	10	11	12	
		L	T	R	L	T	R	
Volume		148	1	36	0	0	4	
Peak Hour Factor, PHF		1.00	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR		148	1	36	0	0	4	
Percent Heavy Vehicles		0	0	0	0	0	0	
Percent Grade (%)		0			0			
Flared Approach: Exists?/Storage		No			/	No		
Lanes		1	1	0		0	1	0
Configuration		L		TR		LTR		

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound				Southbound		
Movement	1	4	7	8	9	10	11	12	
Lane Config	LT	L	L		TR		LTR		
v (vph)	0	17	148		37		4		
C(m) (vph)	1198	1339	568		901		631		
v/c	0.00	0.01	0.26		0.04		0.01		
95% queue length	0.00	0.04	1.05		0.13		0.02		
Control Delay	8.0	7.7	13.6		9.2		10.7		
LOS	A	A	B		A		B		
Approach Delay				12.7			10.7		
Approach LOS				B			B		

TWO-WAY STOP CONTROL SUMMARY

Analyst: Rick Crafts
 Agency/Co.: RCE
 Date Performed: 5/4/07
 Analysis Time Period: PM Peak - existing + project
 Intersection: 78/3rd
 Jurisdiction: County of San Diego
 Units: U. S. Customary
 Analysis Year: 2007
 Project ID: 36900
 East/West Street: SR-78
 North/South Street: 3 rd
 Intersection Orientation: EW

Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Eastbound			Westbound		
		1	2	3	4	5	6
		L	T	R	L	T	R
Volume		4	363	205	34	260	0
Peak-Hour Factor, PHF		1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR		4	363	205	34	260	0
Percent Heavy Vehicles		0	--	--	0	--	--
Median Type/Storage		TWLTL			/ 5		
RT Channelized?		Yes					
Lanes		0	2	1	1	1	0
Configuration		LT	T	R	L		TR
Upstream Signal?		No			No		

Minor Street:	Approach Movement	Northbound			Southbound		
		7	8	9	10	11	12
		L	T	R	L	T	R
Volume		126	3	33	0	0	4
Peak Hour Factor, PHF		1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR		126	3	33	0	0	4
Percent Heavy Vehicles		0	0	0	0	0	0
Percent Grade (%)			0			0	
Flared Approach: Exists?/Storage		No			No		
Lanes		1	1	0	0	1	0
Configuration		L		TR		LTR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound	
Movement	1	4	7	8	9	10	11
Lane Config	LT	L	L		TR		LTR
v (vph)	4	34	126		36		4
C(m) (vph)	1316	1207	569		805		745
v/c	0.00	0.03	0.22		0.04		0.01
95% queue length	0.01	0.09	0.85		0.14		0.02
Control Delay	7.7	8.1	13.1		9.7		9.9
LOS	A	A	B		A		A
Approach Delay				12.4			9.9
Approach LOS				B			A

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: Rick Crafts
 Agency/Co.: RCE
 Date Performed: 5/4/07
 Analysis Time Period: AM Peak - cumulative
 Intersection: 78/3rd
 Jurisdiction: County of San Diego
 Units: U. S. Customary
 Analysis Year: 2004
 Project ID: 36900
 East/West Street: SR-78
 North/South Street: 3 rd
 Intersection Orientation: EW Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Eastbound			Westbound			
		1	2	3		4	5	6
		L	T	R		L	T	R
Volume		5	405	150		50	595	5
Peak-Hour Factor, PHF		1.00	1.00	1.00		1.00	1.00	1.00
Hourly Flow Rate, HFR		5	405	150		50	595	5
Percent Heavy Vehicles		0	--	--		0	--	--
Median Type/Storage		TWLTL				/ 5		
RT Channelized?						Yes		
Lanes		0	2	1		1	1	0
Configuration		LT	T	R		L		TR
Upstream Signal?		No				No		

Minor Street:	Approach Movement	Northbound			Southbound		
		7	8	9	10	11	12
		L	T	R	L	T	R
Volume		240	5	40	5	5	5
Peak Hour Factor, PHF		1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR		240	5	40	5	5	5
Percent Heavy Vehicles		0	0	0	0	0	0
Percent Grade (%)		0			0		
Flared Approach: Exists?/Storage		No			/ No		
Lanes		1	1	0	0	1	0
Configuration		L		TR		LTR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound	
Movement	1	4	7	8	9	10	11 12
Lane Config	LT	L	L		TR		LTR
v (vph)	5	50	240		45		15
C(m) (vph)	987	1165	359		730		410
v/c	0.01	0.04	0.67		0.06		0.04
95% queue length	0.02	0.13	5.54		0.20		0.11
Control Delay	8.7	8.2	34.6		10.3		14.1
LOS	A	A	D		B		B
Approach Delay				30.8			14.1
Approach LOS				D			B

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: Rick Crafts
 Agency/Co.: RCE
 Date Performed: 5/4/07
 Analysis Time Period: PM Peak - cumulative
 Intersection: 78/3rd
 Jurisdiction: County of San Diego
 Units: U. S. Customary
 Analysis Year: 2007
 Project ID: 36900
 East/West Street: SR-78
 North/South Street: 3 rd
 Intersection Orientation: EW

Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street:		Eastbound				Westbound		
Approach	Movement	1	2	3	4	5	6	
		L	T	R	L	T	R	
Volume		5	760	290	50	650	5	
Peak-Hour Factor, PHF		1.00	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR		5	760	290	50	650	5	
Percent Heavy Vehicles		0	--	--	0	--	--	
Median Type/Storage		TWLTL			/ 5			
RT Channelized?		Yes						
Lanes		0	2	1		1	1	0
Configuration		LT	T	R		L		TR
Upstream Signal?		No				No		

Minor Street:		Northbound				Southbound		
Approach	Movement	7	8	9	10	11	12	
		L	T	R	L	T	R	
Volume		150	5	50	5	5	5	
Peak Hour Factor, PHF		1.00	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR		150	5	50	5	5	5	
Percent Heavy Vehicles		0	0	0	0	0	0	
Percent Grade (%)			0			0		
Flared Approach: Exists?/Storage		No			/			No /
Lanes		1	1	0		0	1	0
Configuration		L		TR		LTR		

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound				Southbound			
Movement	1	4		7	8	9		10	11	12
Lane Config	LT	L		L		TR			LTR	
v (vph)	5	50		150		55			15	
C(m) (vph)	942	861		297		582			356	
v/c	0.01	0.06		0.51		0.09			0.04	
95% queue length	0.02	0.18		2.94		0.31			0.13	
Control Delay	8.8	9.4		29.3		11.8			15.6	
LOS	A	A		D		B			C	
Approach Delay					24.6				15.6	
Approach LOS					C				C	

TWO-WAY STOP CONTROL SUMMARY

Analyst: Rick Crafts
 Agency/Co.: RCE
 Date Performed: 5/4/07
 Analysis Time Period: AM Peak - existing
 Intersection: f & 3rd
 Jurisdiction: County of San Diego
 Units: U. S. Customary
 Analysis Year: 2007
 Project ID: 36900
 East/West Street: F St.
 North/South Street: 3 rd
 Intersection Orientation: NS

Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach Movement	Northbound				Southbound		
	1	2	3		4	5	6
	L	T	R		L	T	R
Volume	6	181	0		0	76	1
Peak-Hour Factor, PHF	1.00	1.00	1.00		1.00	1.00	1.00
Hourly Flow Rate, HFR	6	181	0		0	76	1
Percent Heavy Vehicles	0	--	--		0	--	--
Median Type/Storage	Undivided			/			
RT Channelized?							
Lanes	0	1	0		0	1	0
Configuration	LTR				LTR		
Upstream Signal?	No				No		

Minor Street: Approach Movement	Westbound				Eastbound		
	7 L	8 T	9 R		10 L	11 T	12 R
Volume	0	2	0		0	0	1
Peak Hour Factor, PHF	1.00	1.00	1.00		1.00	1.00	1.00
Hourly Flow Rate, HFR	0	2	0		0	0	1
Percent Heavy Vehicles	0	0	0		0	0	0
Percent Grade (%)	0				0		
Flared Approach: Exists?/Storage				No /			
Lanes	0	1	0		0	1	0
Configuration	LTR				LTR		

Delay, Queue Length, and Level of Service

Approach Movement	NB	SB	Westbound			Eastbound		
	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	6	0		2			1	
C(m) (vph)	1535	1407		637			991	
v/c	0.00	0.00		0.00			0.00	
95% queue length	0.01	0.00		0.01			0.00	
Control Delay	7.4	7.6		10.7			8.6	
LOS	A	A		B			A	
Approach Delay				10.7			8.6	
Approach LOS				B			A	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: Rick Crafts
 Agency/Co.: RCE
 Date Performed: 5/4/07
 Analysis Time Period: PM Peak - existing
 Intersection: f & 3rd
 Jurisdiction: County of San Diego
 Units: U. S. Customary
 Analysis Year: 2007
 Project ID: 36900
 East/West Street: F St.
 North/South Street: 3 rd
 Intersection Orientation: NS

Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound				Southbound		
		1	2	3		4	5	6
		L	T	R		L	T	R
Volume		5	168	0		1	241	3
Peak-Hour Factor, PHF		1.00	1.00	1.00		1.00	1.00	1.00
Hourly Flow Rate, HFR		5	168	0		1	241	3
Percent Heavy Vehicles		0	--	--		0	--	--
Median Type/Storage		Undivided			/			
RT Channelized?								
Lanes		0	1	0		0	1	0
Configuration		LTR				LTR		
Upstream Signal?		No				No		

Minor Street: Approach Movement	Westbound				Eastbound		
	7 L	8 T	9 R	10 L	11 T	12 R	
Volume	0	0	0	2	0	7	
Peak Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR	0	0	0	2	0	7	
Percent Heavy Vehicles	0	0	0	0	0	0	
Percent Grade (%)		0			0		
Flared Approach: Exists?/Storage				No /			
Lanes	0	1	0		0	1	0
Configuration	LTR				LTR		

Delay, Queue Length, and Level of Service

Approach Movement Lane Config	NB	SB	Westbound			Eastbound		
	1	4	7	8	9	10	11	12
	LTR	LTR	LTR	LTR		LTR	LTR	
v (vph)	5	1		0			9	
C(m) (vph)	1334	1422					726	
v/c	0.00	0.00					0.01	
95% queue length	0.01	0.00					0.04	
Control Delay	7.7	7.5					10.0+	
LOS	A	A					B	
Approach Delay							10.0+	
Approach LOS							B	

TWO-WAY STOP CONTROL SUMMARY

Analyst: Rick Crafts
 Agency/Co.: RCE
 Date Performed: 5/4/07
 Analysis Time Period: AM Peak - existing + project
 Intersection: f & 3rd
 Jurisdiction: County of San Diego
 Units: U. S. Customary
 Analysis Year: 2007
 Project ID: 36900
 East/West Street: F St.
 North/South Street: 3 rd
 Intersection Orientation: NS

Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach Movement	Northbound				Southbound		
	1	2	3		4	5	6
	L	T	R		L	T	R
Volume	6	181	0		0	76	2
Peak-Hour Factor, PHF	1.00	1.00	1.00		1.00	1.00	1.00
Hourly Flow Rate, HFR	6	181	0		0	76	2
Percent Heavy Vehicles	0	--	--		0	--	--
Median Type/Storage	Undivided			/			
RT Channelized?							
Lanes	0	1	0		0	1	0
Configuration	LTR				LTR		
Upstream Signal?	No				No		

Minor Street: Approach Movement	Westbound				Eastbound		
	7 L	8 T	9 R		10 L	11 T	12 R
Volume	0	2	0		2	0	2
Peak Hour Factor, PHF	1.00	1.00	1.00		1.00	1.00	1.00
Hourly Flow Rate, HFR	0	2	0		2	0	2
Percent Heavy Vehicles	0	0	0		0	0	0
Percent Grade (%)	0				0		
Flared Approach: Exists?/Storage	No			/	No		/
Lanes	0	1	0		0	1	0
Configuration	LTR				LTR		

Delay, Queue Length, and Level of Service

Approach Movement Lane Config	NB	SB	Westbound			Eastbound		
	1	4	7	8	9	10	11	12
	LTR	LTR		LTR			LTR	
v (vph)	6	0		2			4	
C(m) (vph)	1533	1407		636			808	
v/c	0.00	0.00		0.00			0.00	
95% queue length	0.01	0.00		0.01			0.01	
Control Delay	7.4	7.6		10.7			9.5	
LOS	A	A		B			A	
Approach Delay				10.7			9.5	
Approach LOS				B			A	

TWO-WAY STOP CONTROL SUMMARY

Analyst: Rick Crafts
 Agency/Co.: RCE
 Date Performed: 5/4/07
 Analysis Time Period: PM Peak - existing + project
 Intersection: f & 3rd
 Jurisdiction: County of San Diego
 Units: U. S. Customary
 Analysis Year: 2007
 Project ID: 36900
 East/West Street: F St.
 North/South Street: 3 rd
 Intersection Orientation: NS

Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Northbound				Southbound		
		1	2	3		4	5	6
		L	T	R		L	T	R
Volume		6	168	0		1	241	5
Peak-Hour Factor, PHF		1.00	1.00	1.00		1.00	1.00	1.00
Hourly Flow Rate, HFR		6	168	0		1	241	5
Percent Heavy Vehicles		0	--	--		0	--	--
Median Type/Storage		Undivided			/			
RT Channelized?								
Lanes		0	1	0		0	1	0
Configuration		LTR				LTR		
Upstream Signal?		No				No		

Minor Street: Approach Movement	Westbound				Eastbound		
	7 L	8 T	9 R	10 L	11 T	12 R	
Volume	0	0	0	4	0	7	
Peak Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR	0	0	0	4	0	7	
Percent Heavy Vehicles	0	0	0	0	0	0	
Percent Grade (%)		0			0		
Flared Approach: Exists?/Storage				No	/	No	/
Lanes	0	1	0		0	1	0
Configuration	LTR				LTR		

Delay, Queue Length, and Level of Service

Approach Movement	NB	SB	Westbound				Eastbound	
	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	6	1		0			11	
C(m) (vph)	1332	1422					681	
v/c	0.00	0.00					0.02	
95% queue length	0.01	0.00					0.05	
Control Delay	7.7	7.5					10.4	
LOS	A	A					B	
Approach Delay							10.4	
Approach LOS							B	

HCS2000: Unsignalized Intersections Release 4.1d

TWO-WAY STOP CONTROL SUMMARY

Analyst: Rick Crafts
 Agency/Co.: RCE
 Date Performed: 5/4/07
 Analysis Time Period: AM Peak - existing + cuml
 Intersection: f & 3rd
 Jurisdiction: County of San Diego
 Units: U. S. Customary
 Analysis Year: 2007
 Project ID: 36900
 East/West Street: F St.
 North/South Street: 3 rd
 Intersection Orientation: NS

Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach Movement	Northbound				Southbound		
	1	2	3	4	5	6	
	L	T	R	L	T	R	
Volume	8	217	0	0	90	3	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR	8	217	0	0	90	3	
Percent Heavy Vehicles	0	--	--	0	--		
Median Type/Storage	Undivided			/			
RT Channelized?							
Lanes	0	1	0		0	1	0
Configuration	LTR				LTR		
Upstream Signal?	No				No		

Minor Street: Approach Movement	Westbound				Eastbound		
	7 L	8 T	9 R	10 L	11 T	12 R	
Volume	0	2	0	2	0	2	
Peak Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR	0	2	0	2	0	2	
Percent Heavy Vehicles	0	0	0	0	0	0	
Percent Grade (%)		0			0		
Flared Approach: Exists?/Storage				No /			
Lanes	0	1	0		0	1	0
Configuration	LTR				LTR		

Delay, Queue Length, and Level of Service

Approach Movement Lane Config	NB	SB	Westbound			Eastbound		
	1	4	7	8	9	10	11	12
	LTR	LTR		LTR			LTR	
v (vph)	8	0		2			4	
C(m) (vph)	1514	1365		592			761	
v/c	0.01	0.00		0.00			0.01	
95% queue length	0.02	0.00		0.01			0.02	
Control Delay	7.4	7.6		11.1			9.8	
LOS	A	A		B			A	
Approach Delay				11.1			9.8	
Approach LOS				B			A	

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TWO-WAY STOP CONTROL SUMMARY

Analyst: Rick Crafts
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 Analysis Time Period: PM Peak - existing + cuml
 Intersection: f & 3rd
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 Units: U. S. Customary
 Analysis Year: 2007
 Project ID: 36900
 East/West Street: F St.
 North/South Street: 3 rd
 Intersection Orientation: NS

Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach Movement	Northbound				Southbound		
	1	2	3	4	5	6	
	L	T	R	L	T	R	
Volume	8	200	0	1	290	7	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR	8	200	0	1	290	7	
Percent Heavy Vehicles	0	--	--	0	--	--	
Median Type/Storage	Undivided			/			
RT Channelized?							
Lanes	0	1	0		0	1	0
Configuration	LTR				LTR		
Upstream Signal?	No				No		

Minor Street: Approach Movement	Westbound				Eastbound		
	7 L	8 T	9 R	10 L	11 T	12 R	
Volume	0	0	0	4	0	7	
Peak Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR	0	0	0	4	0	7	
Percent Heavy Vehicles	0	0	0	0	0	0	
Percent Grade (%)	0				0		
Flared Approach: Exists?/Storage	No			/	No		
Lanes	0	1	0		0	1	0
Configuration	LTR				LTR		

Delay, Queue Length, and Level of Service

Approach Movement Lane Config	NB	SB	Westbound			Eastbound		
	1	4	7	8	9	10	11	12
	LTR	LTR		LTR			LTR	
v (vph)	8	1		0			11	
C(m) (vph)	1276	1384					618	
v/c	0.01	0.00					0.02	
95% queue length	0.02	0.00					0.05	
Control Delay	7.8	7.6					10.9	
LOS	A	A					B	
Approach Delay							10.9	
Approach LOS							B	

APPENDIX C

Preliminary Striping Plan for Third Street

